



Arizona Comprehensive Asthma Control Plan



“The Arizona Department of Health Services sponsored the development of this plan with the intent to set priorities and suggest strategies to address asthma as a serious chronic disease and public health issue.”

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This plan is designed to assist stakeholders, policymakers, healthcare professionals, educators, and public health workers to develop and coordinate approaches to address asthma among their constituents. The plan is an important step in raising awareness of the serious public health problem of asthma and provides a framework for action to reduce the impact of asthma in Arizona.

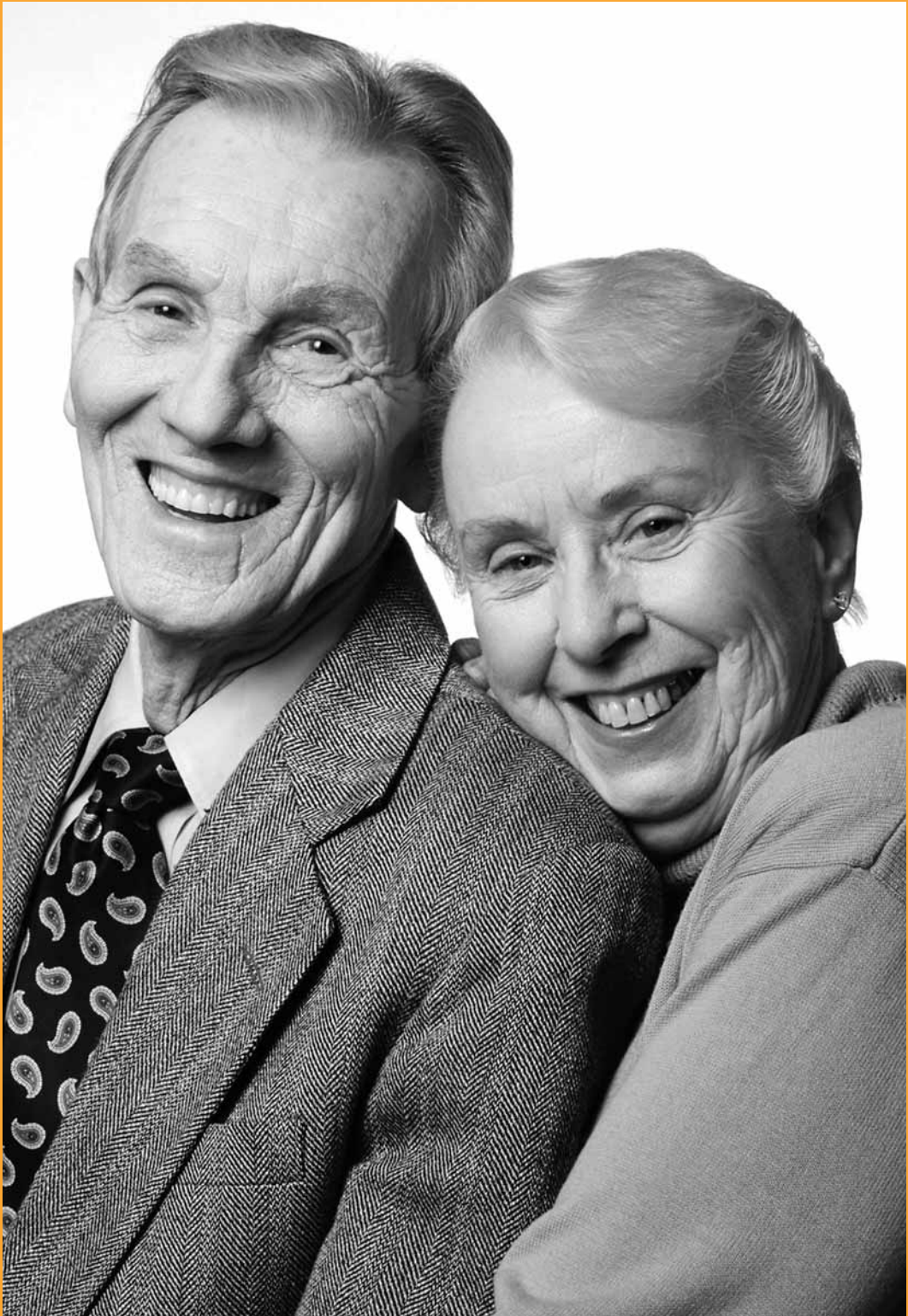
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Arizona Comprehensive Asthma Control Plan ●●●●●●●●●●



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Arizona Asthma Coalition

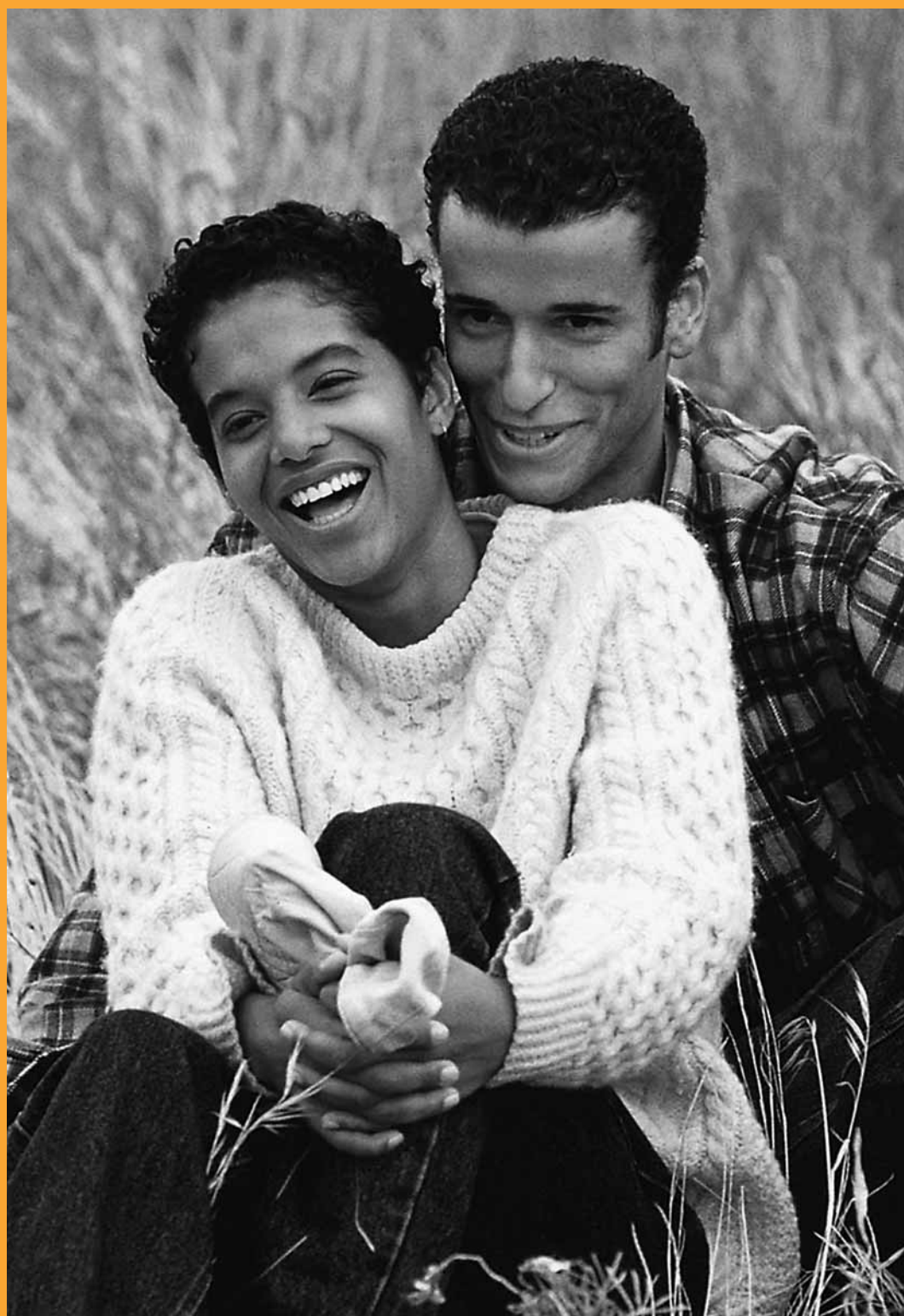
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Executive Summary

Asthma is one of the nation's most common and costly diseases,¹ affecting over 31 million Americans,² with direct and indirect costs exceeding \$14 billion annually.³

Asthma is a chronic respiratory

disease characterized by inflammation of the airways, tightening of the muscles surrounding the airways, and an increase in mucus production.⁴

Although there is no cure for asthma, proper disease management strategies including pharmacological treatments, effective asthma education, and the elimination of triggers from the environment are essential to ensure quality of life for those with the disease.

The direct effects of asthma include hospitalizations, emergency department visits, and death. The indirect effects of asthma are widespread and reach far beyond asthmatics themselves. Indirect effects include missed days from school and work, and quality of life issues. For many people with asthma and their families, quality of life decreases as daily activities are disrupted due to symptoms associated with the disease.

While the exact causes of asthma have not yet been determined, research indicates that both environmental and genetic factors contribute to the disease.⁵ Risk factors for asthma include a family history of the disease, low socioeconomic status, living in an inner-city environment, and race (Hispanic and African American).⁶

The Arizona Department of Health Services sponsored the development of this plan with the intent to set priorities and suggest strategies to address asthma as a serious chronic disease and public health issue. The plan continues the focus placed on asthma in the Healthy People 2010 report. The plan is meant to serve as an ambitious and comprehensive approach to improving the health and quality of life for those with asthma living in Arizona. This plan should be seen as a fluid framework for stakeholders to further develop and identify objectives and strategies to address the issues. Due to the complexity of the disease, it is important that a comprehensive approach be taken and that community stakeholders work collaboratively to implement the plan.

TABLE 1 — • Overriding Goals:

- Reduce asthma deaths in Arizona.
- Reduce asthma-related hospitalizations and emergency department visits in Arizona.
- Reduce the number of asthma-related missed school and work days.



TABLE 2 — • Plan Objectives by Topic

Epidemiology and Research

- 1. Establish a surveillance system for accurately tracking asthma deaths, illness, disability, and financial burden in Arizona.
- 2. Support research investigating causes, triggers, and management of asthma as well as healthcare policies and outcomes particularly as the activities relate to state issues.

Treatment and Management

- 3. Increase the accuracy of diagnosing asthma in the pediatric and adult population by educating healthcare providers about methods and criteria for diagnosis.
- 4. Increase the proportion of persons in Arizona who receive appropriate care according to established guidelines.
- 5. Educate healthcare providers/professionals in Arizona to provide individuals with asthma and their families with the best practice of care, education and resources to effectively manage their condition.
- 6. Increase the number of Arizonans with asthma who receives written management plans from their healthcare provider.

Patient Education

- 7. Improve self-management knowledge and behavior in people with asthma, their families and other caregivers.

Secondary Prevention

- 8. Reduce exposure to asthma triggers (allergens and irritants) in the home, preschool, school, workplace and outdoor environment to prevent asthma episodes or reduce their severity.

School/Childcare Issues

- 9. Maximize good asthma management practices in the school setting.
- 10. Maximize good asthma management practices in the childcare setting.

Disparity

- 11. Identify and eliminate disparities in asthma prevention, diagnosis, and management throughout the state.

Collaborative Efforts

- 12. Foster communication, collaboration and networking opportunities among patients, caregivers, healthcare professionals, public health officials and other stakeholders.

Advocacy

- 13. Advocate and support policies that promote asthma friendly communities.

Public Awareness

- 14. Improve public awareness and sensitivity to the needs of persons with asthma.



Introduction

Definition of Asthma

Asthma is a chronic respiratory disease where the small airways in the lungs become inflamed and narrowed in response to triggers.⁷

Common triggers that initiate an asthma attack or episode include

allergens, airway irritants (e.g. smoke), sharp changes in weather, exercise, and infections.

Asthma attacks may involve shortness of breath, cough, wheezing, chest pain, chest tightening, or any combination of these symptoms.

Asthma is a serious public health issue. It is one of the nation's most common and costly chronic diseases.⁸ The burden of asthma is widespread and includes direct and indirect impacts encompassing medical, economic, and quality of life issues.⁹

Medically, the disease is responsible for emergency department visits, hospitalizations, and death.¹⁰ The economic impact of the disease is derived from the direct and indirect costs associated with medical care and missed work and school days. Quality of life components of the disease include activity limitations and access to care.

Prevalence of Asthma Nationwide

It is estimated that more than 31 million people nationwide (111 people per 1,000) have at some point in their lifetime been diagnosed with asthma, of which over 8 million are children.¹¹ This is a prevalence rate of 11% for adults and 12% for children. Current asthma prevalence rates are based on the number of people who have been diagnosed with asthma by a healthcare provider and still currently have asthma. In 2002, more than 20 million people (72 people per 1,000) nationwide self-reported currently having asthma (14 million adults and 6.1 million children). More than 12 million people who self-reported currently having asthma also reported having an asthma episode or attack during the previous year (approximately 60%).

Asthma is more prevalent among African Americans (12% for persons age 14 years and younger, 9% for persons 15 years and older) of all age ranges than White non-Hispanics (7% for persons age 14 years and younger, 7% for persons

age 15 years and older) and Hispanics (8% for persons age 14 years and younger, 5% for persons age 15 years and older).¹² Nationally, for persons age 14 years and younger, asthma is more prevalent in males (10%) than females (6%). However, for persons age 15 years and older, asthma is more prevalent in females (8 %) than males (5 - 6%).

Economic Impact of Asthma

Nationally the economic burden of asthma is substantial with more than \$14 billion annually (2002 estimates) attributed to direct and indirect costs associated with the disease.¹³ National estimates for direct medical costs due to asthma totaled more than \$9.4 billion in 2002. Inpatient hospitalizations were the biggest direct medical expenditure totaling more than \$4 billion. Indirect costs associated with the disease are estimated to be over \$4.6 billion. Indirect costs include loss of productivity due to missed school and work days. Missed school days represent the largest indirect expenditure with an estimated value of \$1.4 billion of lost productivity annually.

An Asthma Attack/Episode

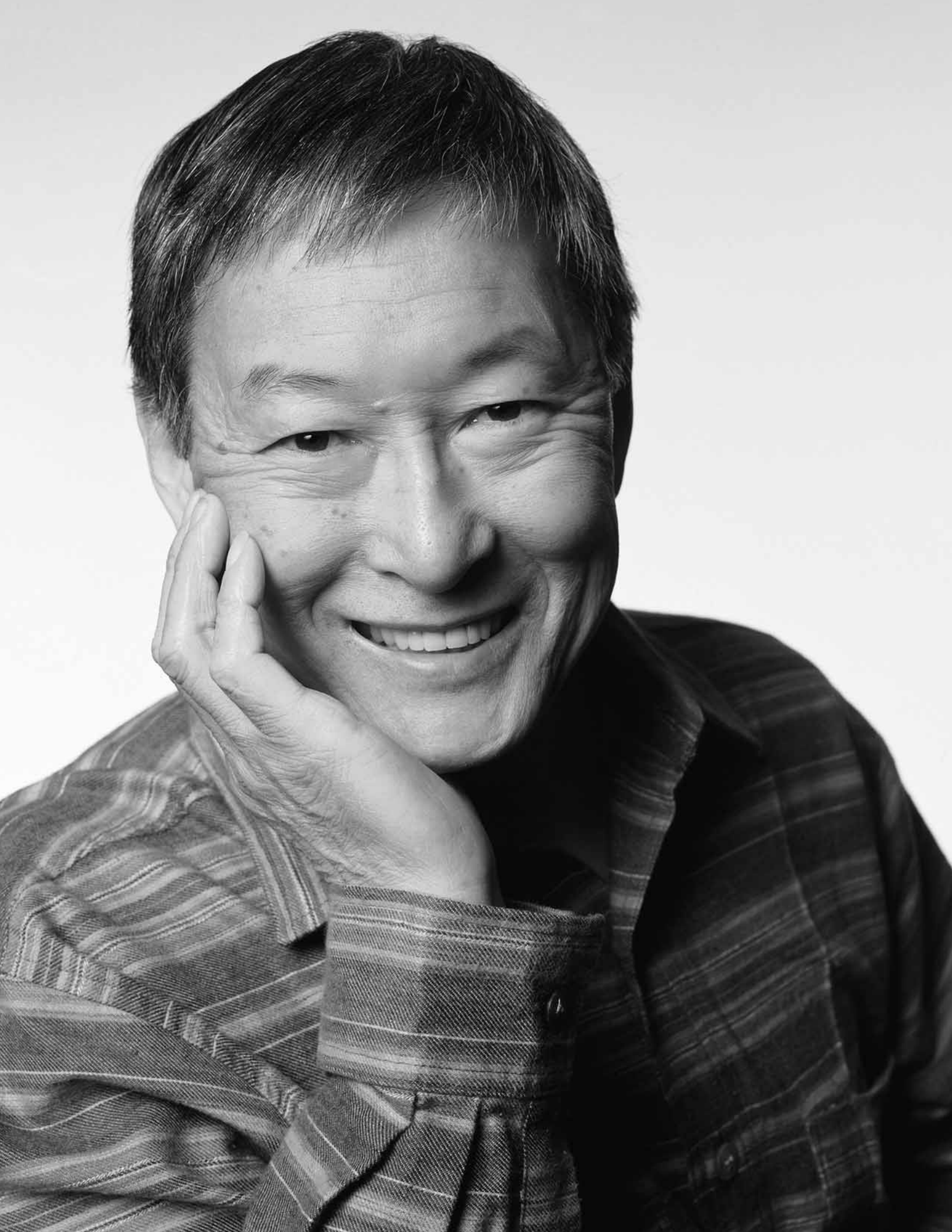
According to the American Lung Association, the exact cause of asthma has yet to be determined.¹³ However, factors leading to an asthma attack or episode and what happens to the lungs during an attack or episode are well understood. During an asthma attack or episode the cells in the airways increase in mucus production, the airways

become inflamed, and the muscles around the airways tighten, thus causing the airways to narrow. Asthma attacks or episodes can range from severe attacks or episodes characterized by chest tightness, severe wheezing, inability to breathe, and blue lips and fingertips to mild attacks or episodes characterized by chest tightness, wheezing, mucus emission, and trouble sleeping at night.¹⁴

Asthma attacks or episodes are brought on by triggers.¹⁵ Triggers are irritants or allergens that can be found either indoors or outdoors. Common triggers include cold air, tobacco smoke, perfume, paint, hair spray, allergens (particles that cause allergies) such as dust mites, pollen, molds, pollution, animal dander, the common cold, influenza, and other respiratory illnesses. Eliminating and controlling triggers are the most effective way to prevent asthma exacerbations.

Diagnosis of Asthma

The requirements for diagnosis of asthma include an evaluation of the patient's history of variable respiratory symptoms, physical examination, in addition to objective measures of pulmonary function.¹⁶ This history should include the patients past and current medical history, social and environmental history, and family history. Physical examination and testing for airflow obstruction, as well as reversibility and exercise testing are also used to determine a diagnosis of asthma. Elimination of alternative diagnoses (i.e., croup, congestive heart failure, cystic fibrosis, etc.) is also required. Once the diagnosis for asthma has been made, a statement about the level of severity





should be included. Classification of asthma severity is based on frequency of daytime symptoms, frequency of nighttime symptoms, impact on daily life, lung function measurements, and diurnal variability.

There are four levels of severity, which include severe persistent, moderate persistent, mild persistent, and mild intermittent. Severe persistent asthma is characterized by continual symptoms with frequent nighttime symptoms along with pulmonary function below 60% of predicted. Moderate persistent asthma is characterized by daily symptoms and nighttime symptoms occurring more than five times per month along with pulmonary function below 60% of predicted. Mild persistent asthma is characterized by symptoms occurring three to six times per week and nighttime symptoms occurring three to four times per month with pulmonary function at or above 80% of predicted. Mild intermittent asthma is characterized by occasional symptoms (twice or less per week) and occasional nighttime symptoms (twice or less per month) with pulmonary function at or above 80% of predicted.

Treatment of Asthma

According to the National Institute of Health (NIH), the goals of asthma treatment should include: the prevention of chronic asthma symptoms and exacerbations, the maintenance of normal activity levels, normal or near-normal lung function, minimal side effects, and patient satisfaction with the care received.¹⁷ To obtain these goals, effective treatment of asthma should consist of a multi-

faceted approach and include pharmacological treatments, patient and family education, and attempts to eliminate and control triggers.¹⁸

Common pharmacological treatments for asthma include anti-inflammatory medications, fast-acting bronchodilators, and leukotriene receptor antagonist medications.

Anti-inflammatory medications prevent and reduce inflammation and swelling in the lungs.¹⁹ These medications are considered to be long-term, controller medications that take several days to become fully active. In all but one of the asthma severity classifications, (Mild Intermittent), controller medications should be the first line drugs of choice. Inhaled steroids are the most effective anti-inflammatory medications currently available. Although extremely critical to the prevention of asthma attacks, anti-inflammatory medications are not useful in stopping an acute exacerbation.

Leukotrienes mediate airflow obstruction, hyperresponsiveness and inflammation through multiple channels.²⁰ The leukotriene receptor antagonist medications help to prevent those effects. This class of medication is included in the controller category.

Fast acting bronchodilators, which help to relax the muscles around the airways and reduce bronchoconstriction, are useful in helping to relieve an acute exacerbation.²¹ They are also used to reduce symptoms in exercise-induced asthma, when they are used to pre-treat before activity. Fast acting

bronchodilators should not be used as a regular every day treatment for asthma. According to NIH guidelines, if they are used more than twice a week, the patient should be strongly considered for controller therapy.²²

Burden of Asthma in Arizona

Prevalence

In the past decade, asthma prevalence and mortality rates in Arizona have exceeded national averages in nine out of 10 years.²³ The prevalence for asthma statewide increased from 11% in 2000²⁴ to 12% in 2003. More than 600,000 Arizonans have, at some time in their life, been diagnosed with asthma. In 2003, the prevalence rate for asthma among Arizona adults (persons 18 years of age or older) who have been diagnosed with asthma at some point in their lifetime was approximately

12%.²⁵ More than 390,000 Arizona adults, or approximately 12% were told by a doctor or health care professional they currently have asthma. In addition, more than 230,000 Arizona adults who currently have asthma reported having an episode or attack within the past year (approximately 59%). An average of 80 deaths occur each year in Arizona due to asthma.²⁶

Currently, there is no statewide survey to accurately determine the number of children in Arizona with asthma. However, according to the nationwide survey (NHIS) utilizing U.S. Census data, it is estimated that more than 79,000 Arizona children have had an asthma episode in the past 12 months and that more than 120,000 Arizona children have been diagnosed with asthma at some time in their life.²⁷ Table 3 below illustrates

TABLE

3

Estimated Prevalence Rates For Most Arizona Counties Based On The NHIS For Pediatric Asthma And The Arizona BRFS For Adults

County	Total Pop	14 & Under	65 & Over	Pediatric Asthma	Adult Asthma
COCHISE	120,439	26,629	18,250	2,683	7,698
COCONINO	120,295	28,495	8,561	2,869	7,913
GILA	51,565	10,531	10,410	1,072	3,260
MARICOPA	3,303,876	774,314	374,333	75,751	216,543
NAVAJO	102,202	28,993	10,340	2,936	6,009
PIMA	881,221	184,249	124,925	18,303	58,660
PINAL	196,275	41,032	31,649	4,106	12,893
SANTA CRUZ	40,035	11,099	4,376	1,109	2,379
YAVAPAI	179,057	30,548	39,073	3,123	11,921
YUMA	167,407	41,136	28,799	4,083	10,329
TOTAL:	5,162,372	1,177,026	650,716	116,035	337,605

estimated prevalence rates for most Arizona counties based on the NHIS for pediatric asthma and the Arizona BRFs for adults.²⁸

Hospitalizations

Arizona Hospitalization Discharge Data show a total of 32,171 asthma-related hospitalizations for Arizona residents.²⁹ The average length of stay was approximately four days with a total of 132,479 days for all asthma-related hospitalizations. An average of \$20,185 was spent per hospitalization with a total healthcare expenditure of \$650 million for all hospitalizations.

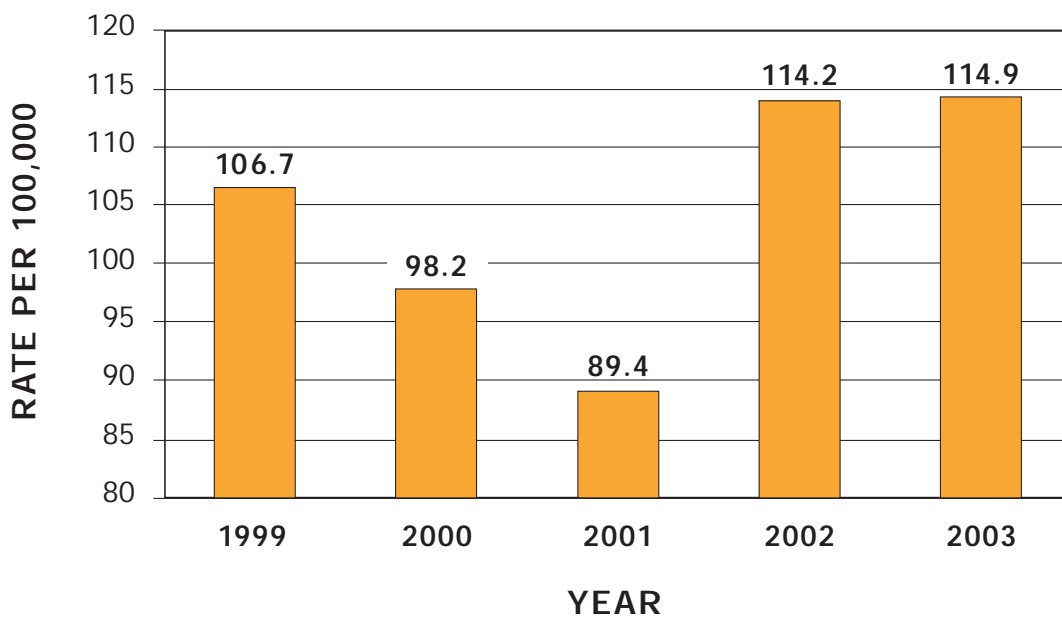
Additionally, a greater number of females were hospitalized for asthma-related complications (66% females vs. 34% males). The majority of hospitalizations were among Non-Hispanic

White/Caucasian Arizonans followed by Hispanics/Latinos, and African Americans (65%, 16%, and 6% respectively).

For persons under 21 years of age, Arizona Hospitalization Discharge Data show a total of 2,952 hospitalizations due to asthma as a primary complication.³⁰ Approximately 39% of this group was between one and four years of age, 46% were between five and 14 years of age, and 9% were between 15 and 21 years of age. The average length of stay for this group was approximately 2.5 days with a total of 7,250 days for all hospitalizations. An average of \$8,153 was spent per hospitalization with a total healthcare expenditure of \$24 million.

TABLE 4

Arizona Asthma Hospitalization Discharge Rates, 1999-2003





Objectives

Epidemiology and Research

Objectives

1. Establish a surveillance system for accurately tracking asthma deaths, illness, disability, and financial burden in Arizona.
2. Support research investigating causes, triggers, and management of asthma as well as healthcare policies and outcomes particularly as the activities relate to state issues.

Rationale

Systematic asthma surveillance is essential as the first step in determining asthma's impact in Arizona. Asthma is not a condition reportable to the Arizona Department of Health Services, therefore obtaining asthma data from one centralized source is difficult. Currently, prevalence rate data for the disease are obtained from two sources: the NHIS and the BRFSS. The NHIS collects national asthma prevalence data from across the U.S. for survey participants and their families. State prevalence rates are then extrapolated from U.S. Census data utilizing Centers for Disease Control and Prevention (CDC) configured weights. The Arizona BFRSS collects data from selected

adults living in Arizona. The BRFSS is not utilized to obtain data about participant family members. In addition to these two survey sources, the Arizona Department of Health Services, Bureau of Public Health Statistics maintains the Arizona Hospital Discharge Database. Hospital discharge data are available from this source for persons hospitalized with asthma as the primary diagnosis. This source does not include data from federal or Native American facilities and does not include emergency room data unless the person was admitted to the hospital.

A surveillance system, which includes state-specific data for adults and children in addition to emergency room data from all medical institutions, is needed to more accurately assess the burden of asthma throughout Arizona. Currently pediatric prevalence rates are determined utilizing the NHIS data obtained from a national sample. A system to obtain more accurate state-specific data pertaining to pediatric asthma is needed to assess the burden of asthma for children in Arizona. Until emergency room data and hospitalization data from all medical

facilities statewide are obtained, the true economic impact of the disease cannot be determined. A more comprehensive understanding of the distribution of the morbidity and mortality of asthma statewide will assist local efforts in the development, planning, implementation, and evaluation of programs for the disease.

Although there is no cure for asthma and the cause of the disease has not been identified, scientific advances in the understanding of the disease have led to new and better techniques to manage the disease. Research findings about the role of airway inflammation have led to pharmacological treatments that have been key to successful disease management. In addition, a better understanding of environmental conditions and triggers related to asthma exacerbations has evolved due in part from research findings. More research is needed to address issues pertaining to disease onset, progression, increases in prevalence rates, and potential cures for the disease.

Objective

1. Establish a surveillance system for accurately tracking asthma deaths, illness, disability, and financial burden in Arizona.

Strategies

- ▶ Establish a standardized case definition of asthma and establish criteria for the measurement of asthma morbidity and mortality.
- ▶ Ensure adequate resources to develop and maintain new and existing surveillance systems.
- ▶ Develop new surveys or utilize existing surveys to collect data not available through existing data sources.
- ▶ Expand the Arizona BRFSS to include children of survey participants.
- ▶ Create an infrastructure for emergency department and hospitalization data to be obtained from all medical facilities statewide including federal and Native American institutions.
- ▶ Conduct special studies to assess the burden of asthma among disparate populations.
- ▶ Disseminate reports based on acquired data to community stakeholders.

Objective

2. Support research investigating causes, triggers, and management of asthma as well as healthcare policies and outcomes particularly as the activities relate to state issues.

Strategies

- ▶ Increase awareness for the need of asthma research.
- ▶ Conduct research studies on the link between environmental triggers and asthma exacerbations.
- ▶ Conduct etiological studies on asthma.
- ▶ Conduct studies focusing on a cure for asthma.
- ▶ Conduct research on the increase of morbidity and mortality of asthma in Arizona, with an emphasis on disparate populations.



Treatment and Management

Objectives

3. Increase the accuracy of diagnosing asthma in the pediatric and adult population by educating healthcare providers about methods and criteria for diagnosis.
4. Increase the proportion of persons in Arizona who receive appropriate care according to established guidelines.
5. Educate healthcare providers/professionals in Arizona to provide individuals with asthma and their families with the best practice of care, education and resources to effectively manage their condition.
6. Increase the number of Arizonans with asthma who receive written management plans from their healthcare provider.

Rationale

Asthma is a very complex disease requiring continuity of care by all healthcare providers diagnosing, treating, and managing patients with the disease. The National Institutes of Health, National Heart, Lung, and Blood Institute (NIH/NHLBI) publishes a practical guide of best practices for the diagnosis and management of asthma for healthcare providers. Unfortunately, widespread adherence to these established guidelines has not been achieved. Numerous barriers including lack of consensus on best practices, time restraints, and access to educational sessions for rural providers prevent provider knowledge of and adherence to the established guidelines.

Healthcare provider education on the current best practices for asthma is key to the improvement of asthma diagnosis and management as well as continuity of care for patients. Although many practitioners have at some point in their career received education on the diagnosis and management of asthma, keeping current on the latest best practices for the disease can be a challenge. Advances in asthma research and improved treatment strategies make it necessary for providers to continually receive education on current diagnostic methodology and management techniques. Strategies to assess usage barriers, promote guideline utilization, and facilitate provider education are needed to enable healthcare professionals to provide the best care possible for patients.

Due to the episodic nature of the disease, asthma can be difficult to diagnose. According to the NIH guidelines, establishing a diagnosis of asthma should include a medical history including the presence of symptoms of airway obstruction, objective measures of pulmonary function, and the exclusion of alternative diagnoses. Improved diagnosis of the disease could potentially speed up treatment efforts and eliminate ambiguous diagnoses such as reactive airway disease.

According to the NIH guidelines, the goals of asthma treatment and management for patients should be to prevent chronic asthma symptoms including exacerbations, maintain normal activity levels, have normal or near-normal lung function, have no or minimal side effects, and be satisfied with the care received. These goals should be

obtained utilizing a comprehensive management approach including pharmacological interventions, implementation of environmental control measures, and patient education. Strategies need to be developed to enhance patient care and disease management utilizing a comprehensive approach.

According to the NIH guidelines all persons with asthma should be provided written instructions on when to increase medications and return for care if symptoms worsen. These set of instructions are known as a written asthma action plan. A written asthma action plan should include: clear instructions on how to follow it; instructions on how to recognize signs of worsening asthma and signs that indicate the need to call the doctor or seek emergency care; and, when to use a fast-acting bronchodilator. The guidelines indicate that all patients with asthma should have a written asthma action plan and know how to use it.

Unfortunately many asthmatic patients never receive an asthma action plan or instructions on how to follow the plan if supplied with one. Efforts need to be made to increase provider education on the use of written asthma action plans and techniques to educate patients on asthma action plans. Moreover, coordinated efforts among healthcare providers, school health offices, and parents need to be put into action to disseminate asthma action plans to school health offices for students with asthma.

Objective

3. Increase the accuracy of diagnosing asthma in the pediatric and adult population by educating healthcare providers about methods and criteria for diagnosis.

Strategies

- ▶ Assess the use of spirometry in the diagnosis of asthma.
- ▶ Improve asthma diagnosis by utilizing objective measurements of lung function and ruling out other diagnoses with similar symptoms.

Objective

4. Increase the proportion of persons in Arizona who receive appropriate care according to NIH/NHLBI guidelines.

Strategies

- ▶ Assess current provider knowledge of the NIH guidelines.
- ▶ Identify barriers, systemic and individual, to the use of NIH guidelines by healthcare providers.
- ▶ Promote provider use of the NIH guidelines in all healthcare settings.
- ▶ Develop and utilize protocols for the diagnosis and treatment of asthma during hospitalization and emergency department visits based on the NIH guidelines.

Objective

5. Educate healthcare providers/professionals in Arizona to provide individuals with asthma and their families with the best practice of care, education and resources to effectively manage their condition.

Strategies

- ▶ Identify, update and/or develop asthma education curriculum for healthcare providers based on the NIH guidelines.
- ▶ Conduct provider education utilizing interactive techniques on diagnosis and management of asthma.
- ▶ Encourage periodic provider education sessions on NIH guideline updates.
- ▶ Develop or adopt an asthma education program to certify health educators in Arizona.
- ▶ Encourage providers to promote healthy living practices to patients such as good nutrition, physical activity, and yearly influenza vaccinations.
- ▶ Create an incentive program to motivate healthcare providers to participate in educational sessions.
- ▶ Partner with non-profit agencies and community organizations to facilitate provider education.
- ▶ Develop and promote standardized education for pharmacists to facilitate pharmacy consultation with patients, families, and caregivers on the proper use of asthma medications and optimal techniques for peak flow meters and spacers.

Objective

6. Increase the number of Arizonans with asthma who receive written management plans from their healthcare provider.

Strategies

- ▶ Promote the use of asthma management plans as part of a larger comprehensive asthma education program for medical providers.

- ▶ Coordinate efforts with schools, health plans, medical providers, government and non-government agencies, families, and other stakeholder organizations to promote, develop, use, and disseminate written asthma action plans for all patients with asthma.
- ▶ Include instructions on how to develop and use written asthma action plans in healthcare provider education programs.
- ▶ Include instructions on the proper techniques and use of peak flow meters as related to written asthma action plans in healthcare provider education programs.
- ▶ Develop and make available on-line a standard asthma action plan.

Patient Education

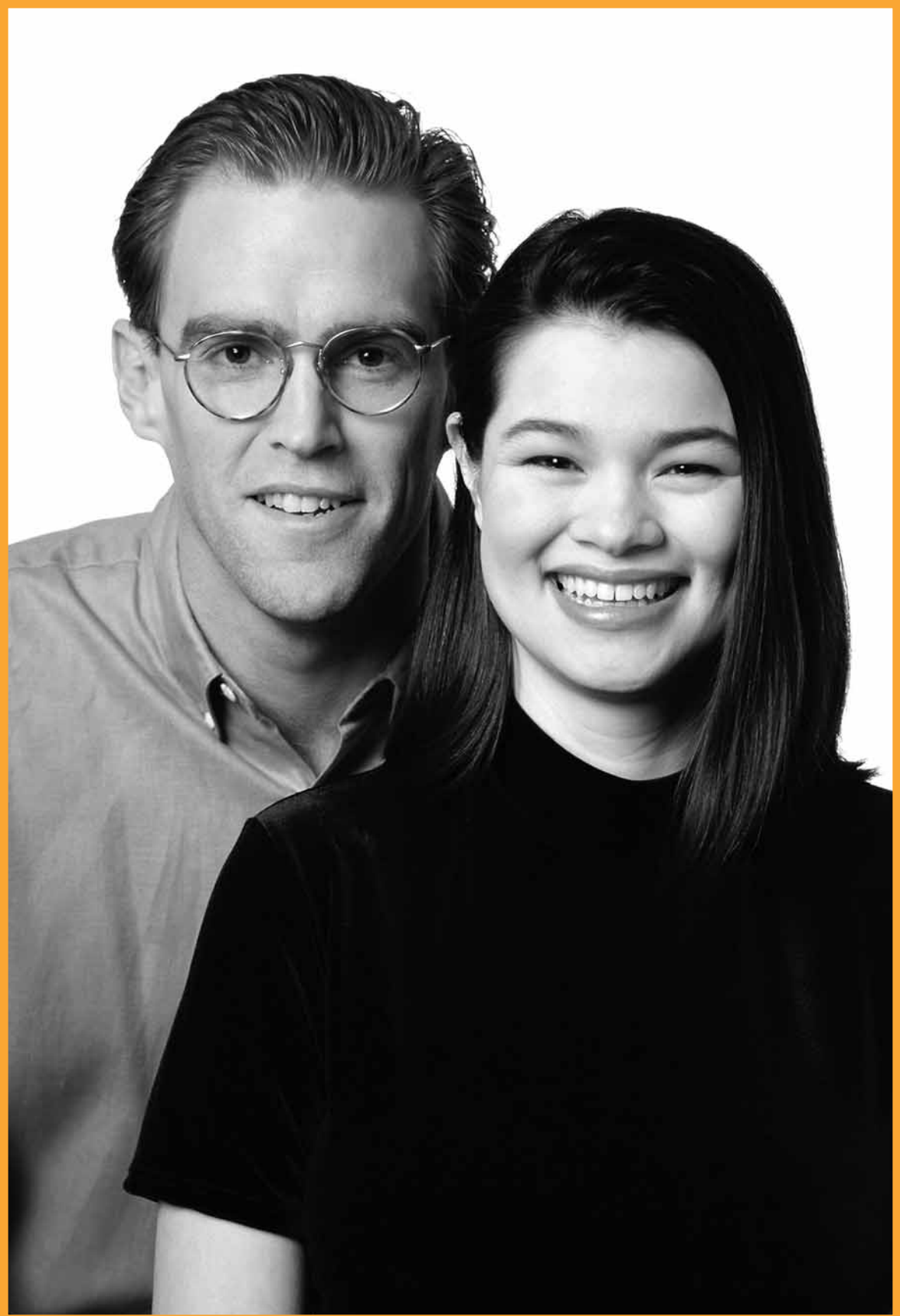
Objective

7. Improve self-management knowledge and behavior in people with asthma, their families and other caregivers.

Rationale

According to the NIH guidelines, the goal of all patient education is to help patients take the actions needed to control their asthma. These actions include: taking daily medications as prescribed, using delivery devices (e.g. spacers, inhalers) correctly, identifying and controlling factors that increase symptoms, using a peak flow meter and monitoring symptoms, and following a written asthma action plan. Effective patient education should involve a partnership between patients and





healthcare professionals with frequent reinforcement of key messages.

Patient education should be comprehensive in approach and address patient concerns. In addition, patient education should address disease manifestation, compliance strategies, and quality of life issues. Good disease management should also be coupled with other healthy practices including good nutrition, abstinence from tobacco use, regular exercise, and yearly influenza vaccinations. Patients should be made aware that there is no cure for asthma, but with proper management the disease can be controlled.

Strategies

- ▶ Encourage improved patient/provider relationships to enhance asthma education and self-management skills.
- ▶ Educate patients, families, and caregivers about asthma and what happens during an asthma attack.
- ▶ Educate patients, families, and caregivers about environmental triggers and environmental control measures in the home.
- ▶ Educate patients, families, and caregivers about asthma medications and medical regimen adherence.
- ▶ Educate patients, families, and caregivers about the use of asthma action plans and proper techniques for peak flow use.
- ▶ Educate patients, families, and caregivers about healthy living practices including proper nutrition, exercise, and yearly influenza vaccinations.
- ▶ Increase funding for asthma education programs that instill and promote good asthma management skills for youth and adults (e.g. asthma camps, patient workshops).
- ▶ Establish asthma support groups for patients, families, and caregivers.
- ▶ Develop a clearinghouse of asthma related information and resources available on the Internet.
- ▶ Work with community organizations to make asthma education materials available at public libraries statewide.

Secondary Prevention

Objective

8. Reduce exposure to asthma triggers (allergens and irritants) in the home, preschool, school, workplace, and outdoor environment to prevent asthma episodes or reduce their severity.

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Rationale

Although there is no known cure for asthma, research indicates that environmental triggers may induce asthma exacerbations. Triggers may include air pollutants, chemicals, mold, cockroaches, dust mites, pollen, animal dander, and viral respiratory infections. Attempts to reduce and eliminate asthma triggers from the environment are critical to reduce the impact of asthma in workplaces, schools, homes, and communities.

Strategies

- ▶ Promote public awareness of environmental factors that contribute to asthma exacerbations.

- ▶ Collaborate with city neighborhood services to promote environmentally healthy homes.
- ▶ Educate patients, families, and caregivers about triggers and how to eliminate and avoid them.
- ▶ Develop and update existing educational materials on occupational asthma.
- ▶ Disseminate educational materials on occupational asthma to employers, employees, healthcare providers, and health insurance plans.
- ▶ Promote indoor air quality management plans for all public buildings.
- ▶ Promote awareness of secondhand smoke and its effect on people with asthma.

School/Childcare Issues

Objectives

9. Maximize good asthma management practices in the school setting.
10. Maximize good asthma management practices in the childcare setting.

Rationale

The impact of asthma in the school setting is quite significant. Annually, millions of days of school are missed due to asthma. According to the CDC, asthma is the number one cause of school absenteeism for school-aged children with chronic health conditions. Management of asthma within the school setting is vital for children with the disease to be present and able to learn. School health services should empower students to manage their disease, work to reduce exacerbations, and be able to respond to emergencies when necessary.

Promoting asthma-friendly initiatives within the school setting should be approached utilizing a comprehensive design created to maximize school health services and draw upon existing community resources while promoting and fostering internal relationships among school personnel. This comprehensive approach should address issues regarding access to healthcare, student, staff, and family education, healthy school environments including indoor and outdoor air quality, and the promotion of physical activities.

Asthma-friendly initiatives should also be promoted within the childcare setting. Childcare staff should be mandated to acquire education on what asthma is, symptom recognition, and what to do in emergent situations. In addition, childcare facilities should aim to reduce environmental triggers and adopt clean indoor and outdoor air management plans.

Objective

9. Maximize good asthma management practices in the school setting.

Strategies

- ▶ Promote comprehensive healthcare for students with asthma.
- ▶ Establish and promote a standardized asthma education curriculum for school personnel.
- ▶ Provide age-appropriate asthma education programs for children with asthma in the school setting.

- ▶ In partnership with the Arizona Department of Education, establish standardized asthma management protocols, policies, and guidelines for school districts statewide. These policies should address issues such as medication access.
- ▶ Educate school personnel, parents, healthcare providers, and students about asthma medication “self-carry” policies.
- ▶ Promote indoor air quality and environmental management plans to school districts statewide.
- ▶ Promote that there be one full-time nurse in every school across the state.
- ▶ Develop a strategy to assist school nurses in obtaining written asthma action plans from physicians for all children with asthma.
- ▶ Enhance and encourage school-based asthma surveillance for missed school days and student prevalence rates.
- ▶ Develop a system to distribute poor air quality/high ozone warnings to school districts and establish alternative activities for children with respiratory illnesses on these days.
- ▶ Promote physical activity/education and sports program participation for students with asthma.
- ▶ Increase funding to provide asthma-related resources and education to school nurses and health aides.
- ▶ Support student enrollment/utilization of school-based health clinics.
- ▶ Develop a system in accordance with HIPAA regulations to share written asthma action plans with appropriate school personnel.

Objective

10. Maximize good asthma management practices in the childcare setting.

Strategies

- ▶ Establish and implement standardized asthma education curriculum for childcare staff.
- ▶ Establish standardized asthma management protocols and policies for childcare centers statewide.
- ▶ Promote indoor air quality and environmental management plans to childcare providers statewide.
- ▶ Promote that asthma education be included as part of childcare provider licensure.
- ▶ Develop a strategy to assist childcare facilities in obtaining written asthma action plans from physicians for all children with asthma.
- ▶ Develop a system in accordance with HIPAA regulations to share written asthma action plans with appropriate childcare personnel.

Disparities

Objective

11. Identify and eliminate disparities in asthma prevention, diagnosis, and management throughout the state.

Rationale

Asthma does not affect all Arizonans equally. Disparities in the morbidity and mortality for certain groups exist. Among Arizona communities, disparities may be characterized by race, ethnicity, gender, age, income, health status, education, sexual

orientation, or geographic location. In Arizona asthma disproportionately affects African Americans and individuals of low socioeconomic status. In addition, females have higher prevalence rates for the disease than males and children under the age of 14 years old are more likely to be hospitalized for the disease than adults.

For asthma, health disparities and low socioeconomic status are closely related. According to the U.S. Census Bureau, almost 10% of Arizonans currently live in poverty. Inadequate or lack of insurance coverage, substandard housing conditions, and the lack of resources to effectively control the disease lead to increase hospitalizations and deaths for people of low socioeconomic status.

Other factors also contribute to health disparities in Arizona for asthma. These factors include cultural and language barriers, physical distance, lack of transportation in rural areas, and an increase in the geriatric population. In addition, many remote communities in Arizona have difficulty recruiting and retaining healthcare professionals.

Improving access to care is critical in eliminating health disparities in Arizona for asthma. Encouraging families to have on-going primary care is essential. Improving access to educational programs, medications, and monitoring devices is also needed. In addition, educational programs curriculum should be culturally and linguistically sensitive and age-appropriate.

Strategies

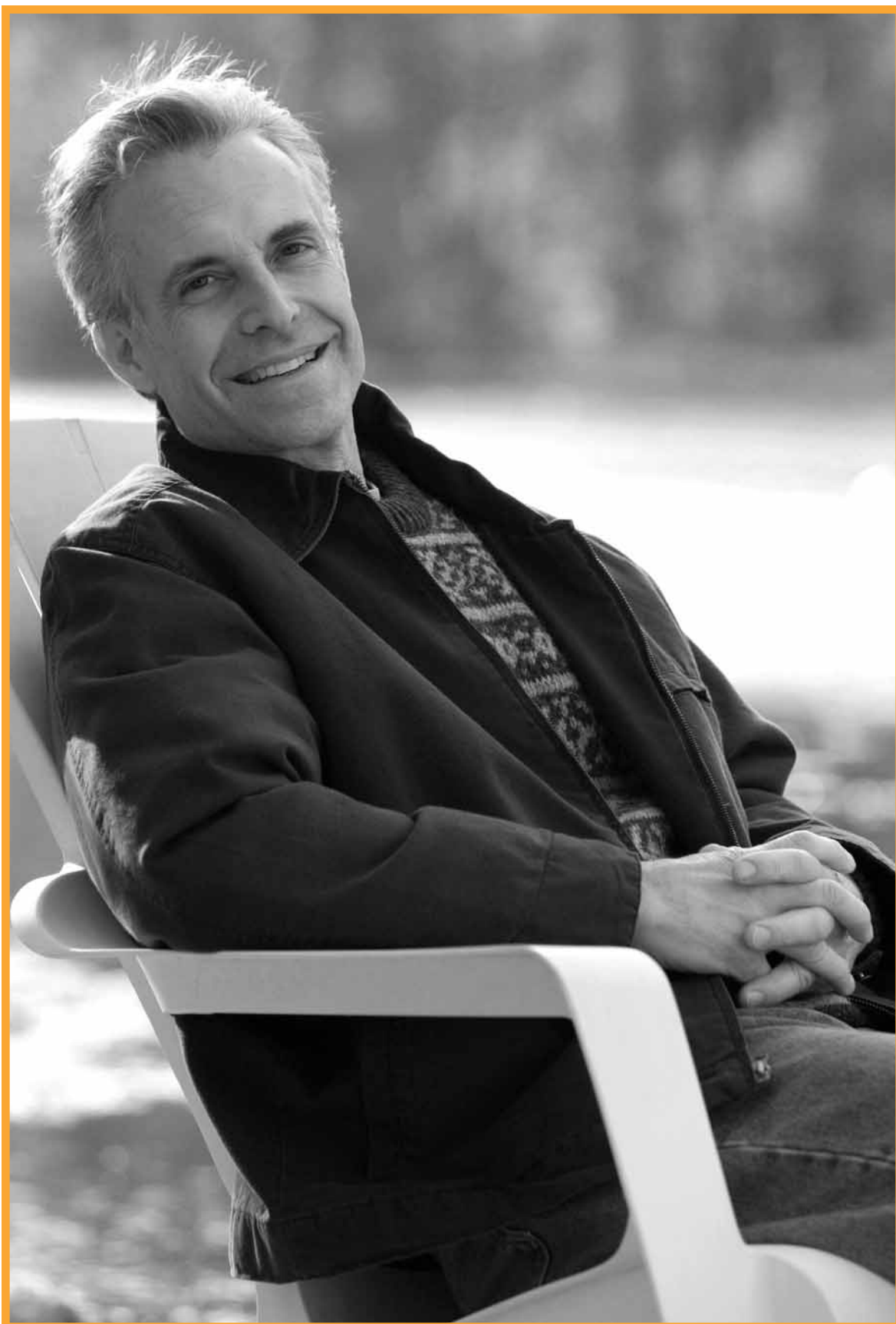
- ▶ Identify specific populations with increased rates of asthma and/or with limited access to asthma resources.
- ▶ Explore factors contributing to the burden of asthma in identified disparate populations.
- ▶ Collaborate with partners to identify and promote available asthma-related resources and education to rural and border communities.
- ▶ Develop, promote, and disseminate asthma-related resources that are culturally sensitive.
- ▶ Develop, promote, and disseminate asthma-related resources that meet the needs of all Arizona residents taking into account factors such as socioeconomic status, race, education level, language, and age.
- ▶ Investigate the utilization of mobile clinics (e.g. Breathmobiles) to deliver services to remote communities across the state.
- ▶ Working in conjunction with the Arizona Health Care Cost Containment System, develop a system to aid uninsured residents to obtain health insurance coverage.
- ▶ Identify emergency assistance programs and organizations providing free or discounted services, medications, and/or medical equipment statewide.
- ▶ Assist healthcare providers and community healthcare organizations to provide asthma education to all patients diagnosed with asthma in Arizona.

Collaborative Efforts

Objective

12. Foster communication, collaboration, and networking opportunities among patients, caregivers, healthcare professionals, public health officials and other stakeholders.





Rationale

Partnerships are essential for any successful disease control program. For asthma, local and statewide coalitions and stakeholder workgroups exist. These collaborative efforts among medical organizations, government agencies, patient groups, and policy makers serve to provide a concerted effort in reducing the prevalence and mortality of the disease. By sustaining and expanding strong networks, stakeholders can address barriers to good asthma care, promote unified, consistent messages to raise awareness of asthma, promote established clinical guidelines, create and implement a standardized patient education program, reach undiagnosed patients with information, and create a platform for community advocacy to combat the disease.

Strategies

- ▶ Secure resources to support a statewide asthma coalition as an ongoing effort to develop and promote partnerships among stakeholders to address barriers to good asthma care and management.
- ▶ Encourage stakeholders to convey clear, consistent messages about asthma-related issues.
- ▶ Develop and disseminate a resource list of on-going statewide resources and educational programs.

Advocacy

Objective

13. Advocate and support policies that promote asthma-friendly communities.

Rationale

Asthma-friendly communities can aid in the overall reduction of disease morbidity and mortality. Educating policymakers about asthma and the issues and barriers surrounding good asthma care in Arizona can provide an infrastructure for future legislative action. Efforts should focus on eliminating disparities in disease treatment and management and promoting healthy living environments for all Arizonans. Moreover, efforts should serve to engage and mobilize community members to take actions in reducing environmental asthma triggers and address indoor and outdoor air quality issues.

Strategies

- ▶ Educate policymakers about the burden of asthma in Arizona.
- ▶ Improve health coverage for uninsured or underinsured populations/patients with asthma.
- ▶ Promote the delivery of consistent asthma messages and policy recommendations so as to focus efforts on priority issues and concerns.
- ▶ Promote clean indoor and outdoor air quality.
- ▶ Decrease exposure to environmental asthma triggers.
- ▶ Support a statewide smoke-free initiative in all public buildings.

- ▶ Bring asthma stakeholders together to continually refine, alter, promote and monitor the implementation of the Arizona Comprehensive Asthma Control Plan.

Public Awareness

Objective

14. Improve public awareness and sensitivity to the needs of persons with asthma.

Rationale

Increasing awareness of asthma as a public health concern among the general public can aid efforts in reducing the morbidity and mortality of the disease and increase the quality of life for those afflicted with the disease. Many individuals are unaware of the seriousness of asthma and how debilitating it can be if uncontrolled. Moreover, many Arizonans are unaware of the link between asthma exacerbations and environmental triggers such as secondhand smoke and air pollutants. Concerted efforts should be made to educate and inform the general public about pertinent asthma-related issues.

Strategies

- ▶ Raise Arizona residents' awareness about asthma as a significant public health issue by promoting asthma-related events, activities and educational opportunities.
- ▶ Raise Arizona residents' awareness about asthma and environmental triggers.
- ▶ Raise Arizona residents' awareness about asthma and indoor and outdoor air quality.

- ▶ Raise Arizona residents' awareness about asthma and secondhand smoke.
- ▶ Disseminate consistent materials and messages about asthma to community groups, schools, businesses, and policymakers.
- ▶ Promote basic asthma emergency protocols in first aid and emergency care courses.

Future Directions

The ultimate goal of creating a comprehensive asthma control plan should be to coordinate existing services and available resources, identify gaps in services, and provide a guide for future endeavors. In order to achieve this goal, future steps for the Arizona Comprehensive Asthma Control Plan should include stakeholder participation in assessing and modifying the plan as workgroups see fit and continual assessment of strides made in achieving the goals and objectives set forth. In addition, the plan should be updated and revised on a continual basis to ensure the plan is addressing relevant issues and meeting the needs of persons with asthma statewide.





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“Asthma is one of the nation’s most common and costly diseases, affecting over 31 million Americans, with direct and indirect costs exceeding \$14 billion annually.”



Arizona Comprehensive Asthma Control Plan

Arizona Department of Health Services

Division of Public Health

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